



#15

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of )  
Haworth, et al. ) Group Art Unit 1617  
Serial No. 09/206,458 )  
Filed: May 20, 1998 ) Examiner: D. Faulkner  
For: Method of Extracting Antioxidants )  
From Labiatae Species and the )  
Extract Products Thereof )

Assistant Commissioner for Patents  
Box Non-Fee Amendment  
Washington, D.C. 20231

**DECLARATION UNDER RULE 131(a)**

Dear Sir:

James Haworth, John Greaves and Friedhelm Brinkhaus, the three inventors in the above-identified patent application, declare as follows:

1. That sometime prior to March 10, 1997, we conceived of a method for using tetrafluoroethane (TFE) and one or more co-solvents to improve the yield of extracts of plant materials;
2. That the process conceived by us included adding TFE and at least one co-solvent to a vessel containing plant material to be extracted. The TFE and co-solvent(s) would come into contact with the plant material and organic components of the plant material would be dissolved into the solvents. The TFE would be allowed to evaporate off, leaving the organic component in the liquid co-solvent(s). The co-solvent(s) could then be removed using a heated gas or by distillation. The extract would be tested to determine yield of the organic component;
3. The initial experiments were conducted on or about March 18, 1997, in which TFE alone and TFE in combination with a percentage of the co-solvents acetone and butane were used to extract plant material of rosemary in an effort to establish that the novel process would work as conceived. The extracts produced were an oily liquid. The efficacy of the extracts was studied in oxygen bomb tests using poultry fat. The efficacy of the extracts made using the co-solvents exceeded the efficacy of the extracts made using TFE alone.
4. That subsequent experiments were conducted in 1997 using various amounts and combinations of co-solvents, including acetone, butane, ethanol, and hexane to determine a

**RECEIVED**

MAY 02 2003

**OFFICE OF PETITIONS**

preferred co-solvent or combination of co-solvents and the amount or the co-solvent(s) to be used;

5. That during this period in 1997, the extracts of rosemary derived from these experiments were tested for overall yield and antioxidant efficacy and compared against the yield and antioxidant efficacy of extracts of rosemary made using TFE alone. The antioxidant efficacy of the extracts made using the so-solvent(s) was uniformly higher than extracts made using TFE alone, and in some experiments the efficacy of the extract was six-fold that of the TFE-only extract; and

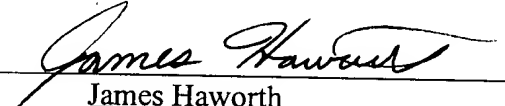
6. That the process was used to extract a commercially acceptable antioxidant from rosemary that could be used to supplement or replace mixed tocopherols prior to April 8, 1998.

The declarants further state that the above statements were made with the knowledge that willful false statements and the like are punishable by fine and/or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that any such willful false statement may jeopardize the validity of this application or any patent resulting therefrom.

Date: 4/19/01

Date: 5-1-01

Date: 4/30/01

  
James Haworth

  
John A. Greaves

  
Friedhelm Brinkhaus